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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,779	09/13/2000	Takashi Yanagisawa	PM271727	1834

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EXAMINER

MEINECKE DIAZ, SUSANNA M

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/600,779

Applicant(s)

YANAGISAWA ET AL.

Examiner

Susanna M. Diaz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003 and 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46-51, 67, 69-73 and 93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-51, 67, 69-73 and 93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on September 22, 2003 and October 23, 2003 have been entered.

Claims 46, 50, 67, 70, and 72 have been amended.

Claim 93 has been added.

Claims 46-51, 67, 69-73, and 93 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 46-51, 67, 69-73, and 93 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 70-73 and 93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 70 and 71, it is not clear where the "on-road communication means" is located. For example, does "on-road" refer to a communication means located on the moving body or at the ground station? Claim 70 recites that all means are located in the vehicle; however, Applicant argues that the charge history of the charge information is transmitted to a ground station (please see page 7 of Applicant's response filed September 22, 2003). This raises the question of whether or not the actual charging transaction (i.e., making payment for the corresponding charge) occurs on the vehicle or at the ground station. For examination purposes, it will be assumed that the "on-road communications means" is located on the moving body.

As per claim 71, it is not understood what is meant by "altering the amount of the charge settlement based on a duration of time until an arrival in the processing area" (lines 3-4). First, how can one determine a duration of time until an arrival in a processing area, especially in light of varying traffic conditions and other delaying factors? Second, how can charge settlement be altered before it has been calculated? According to independent claim 70, charge settlement is not performed until the processing area is reached by the moving body.

There is no antecedent basis for "the loaded storage means" in line 10 of claim 72. For examination purposes, "the loaded storage means" will be interpreted as "the toll card."

There is no antecedent basis for "the storage means" in lines 3-4 of claim 73. For examination purposes, "the storage means" will be interpreted as "the toll card."

In line 3 of claim 93, it is not clear what is meant by "unnatural vehicle behavior."

How is such "unnatural" behavior judged?

Appropriate correction and/or clarification is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 46, 49, 50, 67, 69, 70, and 93 are rejected under 35 U.S.C. 102(e) as being anticipated by Westerlage et al. (U.S. Patent No. 5,694,322).

Westerlage discloses a charge processing device comprising:

[Claim 46] detecting means for detecting position information indicating a position where a moving body is located (col. 4, lines 7-29);

matching means for matching the position information with predetermined map information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

setting means for, based on the map information, setting an area where a charge is applied which area corresponds to a predetermined area in the map information (col.

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9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

receiving means for receiving toll data from a location remote to the moving body including charge data, for each of a plurality of different moving body types, relating to the area where a charge is applied (col. 3, lines 8-13; col. 8, lines 56-59 -- Westerlage's invention applies to various types of vehicles; col. 11, lines 29-32 -- Toll information is "normally produced by another computer or person and loaded into mobile unit 22 for use by processor 100," thereby implying that the toll data input into the mobile unit is at some point received from a remote location, especially since it is not likely that those setting tax guidelines in each state or appointed representatives would personally sit in each vehicle and upload tax data to the respective vehicle's mobile unit);

deciding means for, based on a result of a matching by the matching means, deciding an entry state indicating whether or not the moving body has at least entered into the area where a charge is applied (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60); and

generating means for generating, based on a result of a deciding by the deciding means, charge information for the moving body, by using the received toll data (col. 9, lines 1-14; col. 10, lines 4-7; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

[Claim 49] wherein the generating means is further provided with storage means in which predetermined toll data corresponding to the entry state is stored in advance, and the generating means generates the charge information using the toll data in the

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storage means (col. 11, lines 29-32 -- Toll information is "normally produced by another computer or person and loaded into mobile unit 22 for use by processor 100," thereby implying that the toll data input into the mobile unit is predetermined).

Westerlage discloses a charge processing device comprising:

[Claim 50] host position detecting means for detecting a position of a host moving body (col. 4, lines 7-29);

transceiving means for, by wireless communication, transmitting position information of the host moving body to a ground station, and for receiving charge toll data from a location remote to the moving body including charge data, for each of a plurality of different moving body types, relating to an area where a charge is applied which area is set based on predetermined map information in correspondence with a predetermined area in the map information (col. 3, lines 8-13; col. 8, lines 56-59 -- Westerlage's invention applies to various types of vehicles; col. 11, lines 29-32 -- Toll information is "normally produced by another computer or person and loaded into mobile unit 22 for use by processor 100," thereby implying that the toll data input into the mobile unit is at some point received from a remote location, especially since it is not likely that those setting tax guidelines or appointed representatives in each state would personally sit in each vehicle and upload tax data to the respective vehicle's mobile unit; col. 7, line 1 through col. 8, line 7; col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60); and

charge processing means for performing charge processing relating to the area in which a charge is applied, at a predetermined period and based on a result of a transmission and reception by the transceiving means (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60), wherein

the host position detecting means, the transceiving means, and the charge processing means are able to be mounted on a moving body (col. 4, lines 18-23, 57-59; col. 10, lines 4-7; col. 11, lines 26-50).

Westerlage discloses a charge processing device comprising:

[Claim 67] detecting means for detecting position information indicating a position where a moving body is located (col. 4, lines 7-29);

matching means for matching predetermined map information and the position information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

setting means for, based on the map information, setting an area where a charge is applied which area corresponds to a predetermined area in the map information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

deciding means for, based on a result of a matching by the matching means, deciding an entry state indicating whether or not the moving body has at least entered into the area where a charge is applied (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60); and

making means for, based on a result of a decision by the deciding means, generating charge information for the moving body in the area where a charge is applied, as well as making, at a predetermined timing, a charge history of the generated charge information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

transmitting means for transmitting the charge history of the charge information generated by the making means to a ground station which performs a charge settlement function (col. 7, lines 1-8; col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60),

wherein the making means generates charge information for each of a plurality of areas where a charge is applied, and accumulates the generated charge information as charge history (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

[Claim 69] wherein the detecting means detects the position information using satellite signals from satellites (col. 4, lines 7-29).

Westerlage discloses a charge processing device comprising:

[Claim 70] in-vehicle communication means comprising (col. 10, lines 4-7):

detecting means for detecting position information indicating a position where a moving body is located (col. 4, lines 7-29);

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matching means for matching predetermined map information and the position information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

setting means for, based on the map information, setting an area where a charge is applied which area corresponds to a predetermined area in the map information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

deciding means for, based on a result of a matching by the matching means, deciding an entry state indicating whether or not the moving body has at least entered into the area where a charge is applied (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60); and

making means for, based on a result of a decision by the deciding means, generating charge information for the moving body in the area where a charge is applied, as well as making, at a predetermined timing, a charge history of the generated charge information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60); and

transmitting means for transmitting the charge history of the charge information generated by the making means to a ground station (col. 4, lines 53-64; col. 7, lines 1-8; col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60),

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wherein the transmission means transmits charge history in accordance with an input transmission request (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60), and

wherein the making means generates charge information for each of a plurality of areas where a charge is applied, and accumulates the generated charge information as charge history (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60), and

on-road communication means having request means for performing the transmission request and processing means for performing charge settlement processing in a predetermined processing area and based on a transmitted charge history (col. 9, lines 1-14; col. 10, lines 4-7; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

[Claim 93] wherein the processing means, based on a transmitted charge history, determines whether vehicle position information or time information show unnatural vehicle behavior (col. 7, lines 61-64 -- Additional distances traveled, such as in the case of road closures, can signify unnatural vehicle behavior and be cause for adjustments in billing).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westerlage et al. (U.S. Patent No. 5,694,322), as applied to claims 46 and 50 above.

[Claim 47] Westerlage's charge processing device comprises location information detecting means for detecting, based on the position information, location information indicating the time the moving body is located in the area in which a charge is applied, wherein the deciding means decides, based on the result of the matching by the matching means and a result of a detection by the location information detecting means, the entry state including a location state of the moving body within the area in which a charge is applied (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-65); however, Westerlage does not expressly teach that the date the moving body is located in the area is indicated. Westerlage's invention logs the "specifics of each trip" in order to assess vehicles taxes (col. 7, lines 38-48). In order to properly assess an elapsed time period, especially one that extends from one day to another, it is essential that one record the dates and times corresponding to an elapsed time period. For example, if a truck travels through Texas making extensive deliveries from 3 p.m. to 3 p.m., such a measurement of time has no meaning until corresponding dates are assigned. In other words, if the truck began its deliveries at 3 p.m. on Monday, December 8th, it is important to know whether or not the truck completed all deliveries in the tax area(s) at 3 p.m. on Tuesday, December 9th, Wednesday, December 10th, etc. Therefore, the Examiner asserts that it would have been obvious to

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one of ordinary skill in the art at the time of Applicant's invention to adapt Westerlage's invention to not only indicate time information corresponding to a moving body's locations, but also corresponding date information as well in order to assist in more accurately assessing an elapsed time period, especially one that extends from one day to another.

[Claim 51] Westerlage's invention discloses the settlement of tax payments "by physically printing and mailing a check, or through any suitable electronic funds transfer technology, such as the electronic data interface (EDI)" (col. 7, lines 6-8), yet Westerlage does not expressly teach that the charge processing means performs the charge processing using an IC card on which balance information is stored. However, Official Notice is taken that it is old and well-known in the art to pay tolls through the use of an IC card on which balance information is stored. IC card payments assist in quickly settling payments from one party to another. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to incorporate the use of an IC card on which balance information is stored to make payment as part of Westerlage's invention in order to promote the relatively quick settling of tax payments.

9. Claims 48 and 71-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westerlage et al. (U.S. Patent No. 5,694,322), as applied to claims 46 and 70 above, in view of Widl (U.S. Patent No. 5,721,678).

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[Claim 48] Westerlage discloses the detection of additional distances traveled, such as in the case of road closures, to allow for adjustments in billing (col. 7, lines 61-64), yet Westerlage does not expressly teach that the generating means decides the entry state including a congestion state caused by moving bodies located in the area in which a charge is applied. However, the Examiner asserts that it is old and well-known in the art to charge tolls based at least in part on a current congestion state in the toll area, as taught by Widl (col. 5, lines 30-34 – “For instance, a sensible variant would be to apply lower rates for individual sections of road or for the entire highway system during off-peak traffic times...in order to reduce traffic at peak periods by a suitable shifting of traffic”). Westerlage discloses the receipt of rush hour and traffic information by the mobile unit (col. 6, lines 22-35); therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant’s invention to adapt Westerlage’s generating means to decide the entry state including a congestion state caused by moving bodies located in the area in which a charge is applied to facilitate the charging of tolls based at least in part on a current congestion state in the toll area in order to encourage vehicles to travel during less congested hours, thereby alleviating traffic conditions (as taught by Widl).

[Claim 71] Westerlage does not expressly teach that the on-line road communication means is further provided with altering means for altering the amount of charge settlement based on a duration of time until an arrival in the processing area. The Examiner asserts that altering the amount of charge settlement based on a duration of time until an arrival in a processing area is effectively equivalent to charging a user for

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“duration of travel within a toll zone,” which is taught by Widl (col. 5, lines 25-28).

Westerlage's invention charges vehicles based on the distance traveled through a tax area. Similarly, Widl discloses a tax based on usage, including in the form of time spent in a tax (i.e., toll) area; therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Westerlage to also charge vehicles based on a “duration of travel within a toll zone” (taught by Widl: col. 5, lines 25-28) in order to expand Westerlage's customer base by making the modified invention useful in a more comprehensive range of tax/toll applications.

Westerlage discloses a charge processing device comprising:

[Claim 72] detecting means for detecting position information indicating a position where a moving body is located (col. 4, lines 7-29);

means for storing a predetermined geographical area in which a charge is applied which geographical area is set based on predetermined map information in correspondence with a predetermined area in the map information (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60); and

generating means for, at a predetermined period, generating charge information for the moving body based on a result of a detection by the detecting means and the area in which a charge is applied stored in the loaded storage means (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60);

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[Claim 73] wherein the generating means is provided with a reading means for reading a result of a detection by the detecting means and the area in which a charge is applied stored in the storage means, and generates charge information from the read position information and the area in which a charge is applied (col. 9, lines 1-14; col. 10, line 60 through col. 11, line 50; col. 15, lines 4-67; col. 17, lines 4-60).

Regarding claim 72, Westerlage does not expressly teach that the means for storing a predetermined geographical area is a toll card capable of being inserted and removed; however, Widl teaches that different toll cards can be used for different charging rates, e.g., based on the vehicle type (col. 4, lines 57-67). The toll cards are issued "for use of determined regions or routes" and they are used to assess different sets of charges based on the vehicle type and respective rate due in each toll area. Storing region-specific toll data on a toll card is convenient when a vehicle cannot receive an instant download of the applicable toll data in the surrounding area(s). Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to utilize with Westerlage's invention a toll card capable of being inserted and removed for storing a predetermined geographical area in order to enable local access to region-specific toll data when a vehicle cannot receive an instant download of the applicable toll data in the surrounding area(s).

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (703) 305-1337. The examiner can normally be reached on Monday-Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703)308-1113.

Any response to this action should be mailed to:

**Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450**

or faxed to:

(703)305-7687 [Official communications; including
After Final communications labeled
"Box AF"]

(703)746-7048 [Informal/Draft communications, labeled
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 22202, 7th floor receptionist.

Susanna Diaz
Susanna M. Diaz
Primary Examiner
Art Unit 3623
November 24, 2003